An epiphyte with a rhizomatous stem bearing characteristic turbinate pseudobulbs provided with apical boss. The orchid is leafless at the time of flowering and the pale purple flowers are borne on a drooping raceme from a slender erect scape which is sharply bent about a third of its length from the tip.

Epiphytic on *Engelhardtia* sp. Askot-Baram, Pithoragarh District, E. Kumaon. Alt. 1200 m. In flowers and fruits, 24 April 1962. *U. C. Bhattacharyya* 21200.

Listera longicaulis King & Pantling in J. Asiat. Soc. Bengal, 65: 126, 1896. Ann. R. Bot. Gard. Calc. 8: 256, t. 339, 1898.

An erect terrestrial orchid, 30 cm high with a pair of sessile orbicular-ovate to reniform leaves at the apex of the stem. The greenish flowers are arranged in a lax raceme about 10 cm long. The lip is large, green, green-veined and bifid.

In shade amidst undergrowth in *Abies-Picea* forest near Gangharea Forest Rest House, N. Garhwal. Alt. 2800 m. In flowers, 23 August 1963. *U. C. Bhattacharyya* 29652; in fruits, 23 October 1963. *M. A. Rau* 31778.

Didiciea cunninghamii King & Prain in J. Asiat. Soc. Bengal, 65: 119, 1896. Ann. R. Bot. Gard. Calc. 8: 37, t. 50, 1898.

An erect terrestrial orchid with a small pseudobulb and a single broadly ovate leaf from the side of the pseudobulb. A stout peduncle, nearly 20 cm long bears a laxly flowered spike.

In forest undergrowth near Gangharea Forest Rest House. Alt. 3000 m. 16 August 1963 (mostly young fruits). *U. C. Bhattacharyya* 29389. 23 October 1963 (fruits). *M. A. Rau* 31777.

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A NOTE ON *ELLISIOPHYLLUM PINNATUM* (BENTH.) MAKINO

While studying the temperate ecology of the Darjeeling district, complete specimens of *Ellisiophyllum pinnatum* were collected from Tongloo at an altitude of 3000 m. This taxon is characteristic of slopy moist sheltered positions of field layer and found chiefly along the north facing slopes amidst *Rhododendron* forests. The fruits of this hairy creeping herb have not been described so far. The collection of this plant is of interest because of its disputed systematic position, incomplete description and the peculiar coiling pedicels which bear the mature capsules. A fuller description with a note on its systematics and ecology is presented here.

Ellisiophyllum pinnatum (Benth.) Makino in Tokyo Bot. Mag. 20: 92, 1906; Hayata, Fl. Mont. Formosae 170, 1908. *Mazus pinnatus* Wall. cat. n. 3915, 1831 (nom. nud.). *Ourisia pinnata* Benth. Scroph. Ind. 47, 1835. *Hornemannia pinnata* Benth. in DC. Prodr. 10: 428, 1846. *Sibthorpia pinnata* Benth. ex Hook. f. in Fl. Brit. India 4: 288, 1884. *Moseleya pinnata* Hemsl. in Hook. Icon. Pl. 26: t. 2592, 1899. *Ellisiophyllum reptans* Maxim. in Bull. Acad. Petersb. 16: 223, 1871.

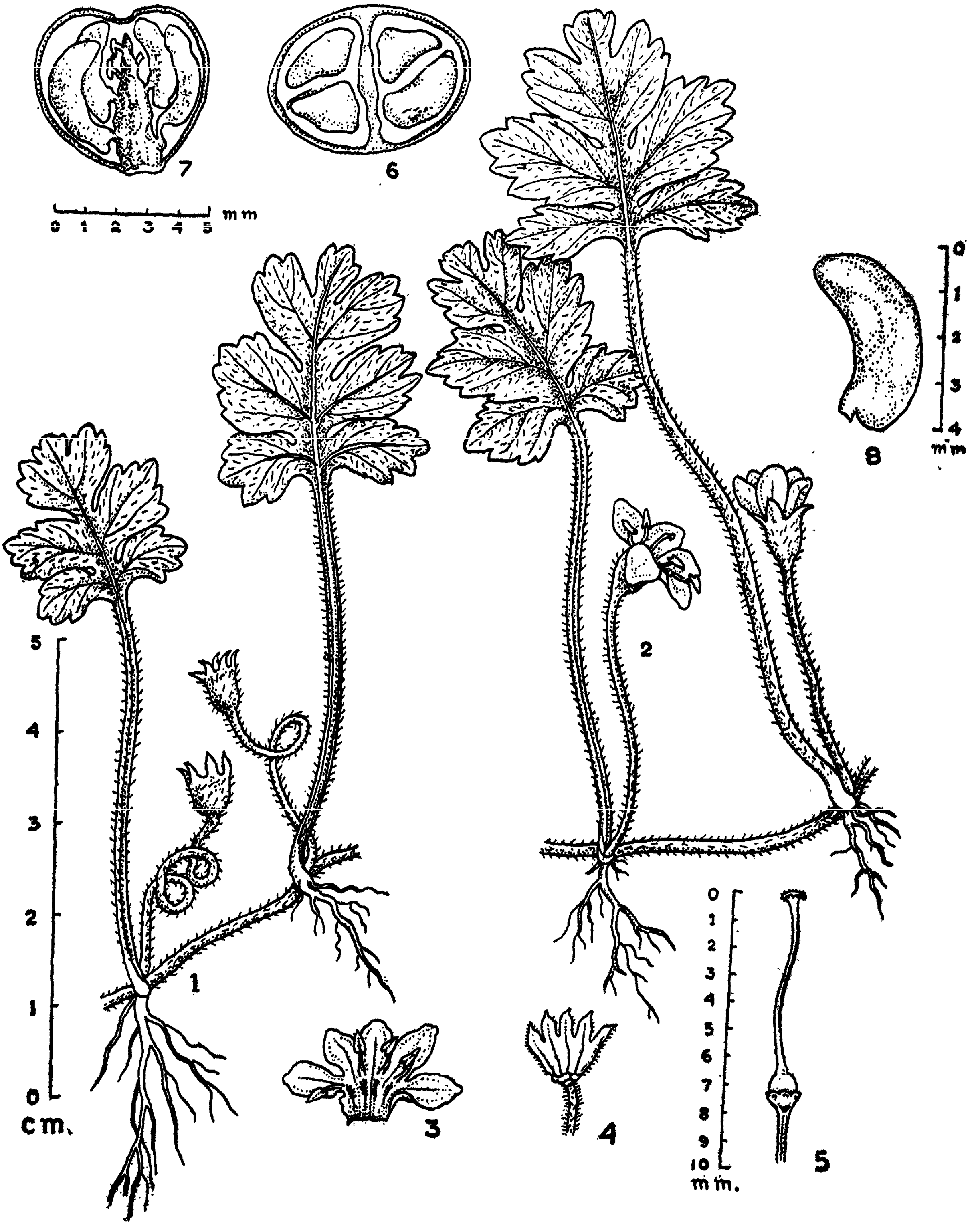
Perennial, hairy herbs; stems 3-25 cm long, slender, trailing, rooting at nodes. Leaves 2-5 cm long, including the segments upto 4 cm broad, simple, alternate, broadly oblong to ovate, membranous, cuneate at base; segments 5-7, obovate, broadly adnate, crenulate or lobulate towards apex; petioles 4-8 cm long, erect. Flowers axillary, solitary; pedicels 4-6 cm long, slender, coiling when capsules mature; calyx campanulate, membranous; lobes 5, ovate, acute; corolla white with orange centre, subrotate; lobes 5, spathulate, spreading, pubescent; stamens 4, epipetalous, didynamous; filaments short, straight; anthers 2-celled, cells diverging, free below, united above; ovary superior, glabrous, 2-loculed, septum conical from base; ovules many; style short, slightly swollen at base; stigma capitate. Capsule ± 6 mm in diam., round or subglobose, membranous, covered by persistent calyx. Seeds ± 4 mm long, concavo-convex, rugulose, glabrous, 1-2 in each locule.

Flower: April to August. *Fruit*: September to October.

Distribution: North East India & Nepal: Tongloo, Raskshe & Ething; China, Formosa, Japan and Philippines.

Brand (1958) has given summary on the nomenclatural changes and referred to the systematic position of this taxon. He states that *Ellisiophyllum* belongs to Scrophulariaceae because the placentation is free central with the septum projecting conically from the base of the capsule to about middle of the fruit where as in the Hydrophyllaceae placentation is parietal. The present study further supports Brand's view that *Ellisiophyllum* should not be placed in Hydrophyllaceae but in Scrophulariaceae because it resembles the latter in a number of floral characters.

An interesting feature noticed is the change of straight pedicels to coiled stalks during maturity of capsules. The specimens, collected during May and June, showed nodding white flowers borne on erect pedicels. In this season rainfall is heavy and temperature high. Capsules produced during October were borne on coiled or about to coil pedicels in the population of plants observed in the field. This is the time when the monsoon recedes and



Ellisiophyllum pinnatum (Benth.) Makino

Figs. 1-8 : 1 & 2. Habit. 3. Corolla (split open). 4. Calyx. 5. Ovary. 6. T. S. capsule. 7. L. S. capsule. 8. Seed.

temperature is low. Thus the coiling of the pedicels appears to have some relation with the seasonal variations and temperature. Further, this feature also synchronises with the maturity of the capsule, and the coiling of the pedicel is first evident at the base of the ovary. Such coiled peduncles at fruiting stage are seen only in certain hydrophytes like *Vallisneria* and *Enhalus*; this condition in a terrestrial plant is significant.

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LITERATURE CITED

Brand, A. Hydrophyllaceae. *Pflanzenr.* 59 : 23-24, 1958.

ON THE IDENTITY OF *LYSIMACHIA SANTAPAUI* SUBBARAO ET HALIM

Lysimachia santapaui Subbarao et Halim has been very recently published in Bull. bot. Surv. India 5(1): 101-103, 1963, as a species new to science, on the basis of a specimen (Subbarao 24821) collected by the senior author from Subansiri F.D., NEFA.

A specimen collected from Tirap F.D., NEFA, by the author of the present note appears to compare favourably with both *L. santapaui* Subbarao et Halim and *L. congestiflora* Hemsl. For establishing the identity of the specimen, he had to study the type materials of both the species. The present note is the outcome of that study. The Director, Royal Botanic Gardens, Kew, England, was kind enough to send on loan the type material and other specimens of *L. congestiflora* Hemsl., for which the author is grateful to him.

While proposing the new species *Lysimachia santapaui* the authors considered cuneate leaf base as one of the characters distinguishing it from *L. congestiflora* Hemsl. wherein it is described as cordate.

On scrutiny of the type material (Dr. A. Henry's coll. No. 4727) of *L. congestiflora* Hemsl. along with others cited below, it is found that the leaf base is cuneate and not cordate as mentioned in the original description of the species and the subsequent publications on it by Knuth (1905) and Handel-Mazzetti (1928).

None of the six points of differences enumerated by the authors in the publication of *L. santapaui* appears to be tenable at all. Some of those are due to misinterpretation of the morphological features while others have no bearing on the specific differences in the genus for which probably the earlier authors did not mention those points in the description. In fact both the species are similar in respect of those points.

In the tabulation of contrasting characters drawn by the authors only one difference, however, is found tenable. Bracts in the newly described species are elliptic or elliptic-lanceolate, whereas in *L. congestiflora* these are almost orbicular or ovate. None of the specimens of *L. congestiflora* examined shows variable tendency in bracts to that extent.

Hence it is considered worthwhile to reduce the new species to the rank of a form only of *L. congestiflora* Hemsl. This necessitates a new combination as follows.

Lysimachia congestiflora Hemsl. f. **santapaui** (Subbarao et Halim) Deb stat. & comb. nov. Basionym: *L. santapaui* Subbarao et Halim in Bull. bot. Surv. India 5(1): 101-103, 1963.

Specimens of L. congestiflora Hemsl. *examined*: Patung District, Prov. Hupeh, Central China, 1885-86, Dr. Aug. *Henry* 4727 (Type—K & CAL); Mt. Omi, W. China, *E. H. Wilson* 5060 (K); Nanto, W. China, *E. H. Wilson* 806 (K); Gau-Choueu, Yunnan-sen Distr., 1910, *J. Cavalerie* 3803 (K); Szechuan, 7000 ft., W. China, *Wilson* 4016; Darjeeling, E. Himalayas, *Griffith* 3529(K); Sikkim Himalayas, *G. Watt* 5535 (CAL).

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LITERATURE CITED

Craib, W. G. Contributions to the Flora of Siam. *Kew Bull.* 238-239, 1922.

Forbes, F. B. and W. B. Hemsley. An enumeration of all the plants known from China proper, Formosa, Hainan, Corea, the Luchu Archipelage and the Island of Hongkong, together with their distribution and synonymy. *J. Linn. Soc. Bot.* 26 : 50, 1889.

Handel-Mazzetti, H. A Revision of the Chinese species of *Lysimachia*, with a new system of the whole genus. *Not. Roy. Bot. Gdn. Edin.* 16 (77) : 51-122, 1928.

Hooker, J. D. *Flora of British India* 3 : 501-505, 1882.

Knuth, R. Lysimachia. *Pflanzenreich* IV. 237 : 283-284, 1905.

Subbarao, G. V. and M. R. Halim. A new species of *Lysimachia* from NEFA. *Bull. bot. Surv. India* 5(1) : 101-103, 1963.